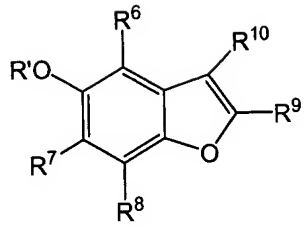
We claim:

1. A compound represented by Formula II:



Formula II

wherein:

R^6 is: hydrogen, optionally substituted (C_1-C_6)-alkyl, optionally substituted (C_2-C_{10})-alkenyl, optionally substituted aryl, (optionally substituted (C_1-C_6)-alkoxy)carbonyl, or halogen;

R^7 and R^8 are independently selected from optionally substituted (C_1-C_6)-alkyl, optionally substituted (C_2-C_{10})-alkenyl, or optionally substituted (C_3-C_8)-cycloalkyl;

R^9 is: optionally substituted aryl, (optionally substituted(C_1-C_6)- alkyl)carbonyl, (optionally substituted aryl)carbonyl, (optionally substituted heterocyclyl)carbonyl, (optionally substituted heterocyclylalkyl)carbonyl, (optionally substituted (C_1-C_6)-alkoxy)carbonyl, (optionally substituted (C_2-C_{10})-alkenyloxy)carbonyl, (optionally substituted amino)carbonyl, carboxy, formyl, or hydroxy(optionally substituted)(C_1-C_6)-alkyl;

R^{10} is: (C_1-C_6)-alkyl, (C_2-C_{10})-alkenyl, or amino; and

R' is: hydrogen, (C_1-C_6)-alkyl, (C_1-C_6)-alkylcarbonyl, phosphoryl, or polyalkoxy; or

R' and R^6 with the atoms to which they are attached form an optionally substituted ring;

with the proviso that the compound is not (5-hydroxy-3,6,7-trimethyl-benzofuran-2-yl)-phenyl-methanone or 3-amino-5-hydroxy-4,6,7-trimethyl-benzofuran-2-carboxylic acid ethyl ester;

and single stereoisomers, mixtures of stereoisomers, and the pharmaceutically acceptable salts thereof.

2. The compound of Claim 1, wherein R^7 and R^8 are (C_1-C_6)-alkyl and R^6 is hydrogen.

3. The compound of Claim 2, wherein R^{10} is (C_1-C_6)-alkyl, and R' is hydrogen.

4. The compound of Claim 1, wherein R^9 is phenylcarbonyl and wherein said phenyl group is unsubstituted or substituted with one or more substituents selected from alkyl, alkenyl, alkoxy, hydroxy, hydroxyalkyl, haloalkyl, (optionally substituted alkoxy)carbonyl, carboxy, nitro, halo, and cyano.

5. The compound of Claim 2, wherein R^{10} is amino and R^9 is (C_1-C_6)-alkoxycarbonyl.

6. A pharmaceutical composition comprising a compound of Claim 1 admixed with an acceptable excipient.

7. A method of treatment for a mammal suffering from a condition characterized by oxidative stress, comprising administering a therapeutically effective amount of a compound of Claim 1.

8. The method of treatment for a mammal suffering from a condition characterized by oxidative stress, comprising administering a therapeutically effective amount of a pharmaceutical composition of Claim 6.

9. The method of Claim 7, wherein the condition is selected from stroke, cerebral ischemia, retinal ischemia, myocardial infarction, chronic heart failure, post-surgical cognitive dysfunctions, peripheral neuropathy, spinal cord injury, head injury, and surgical trauma.

10. The method of Claim 7, wherein the condition involves inflammatory or autoimmune components.

11. The method of Claim 10, wherein the inflammatory condition is a dermatologic condition.

12. A method of treatment for a mammal suffering from a condition characterized by mitochondrial dysfunction or neurodegeneration, comprising administering a therapeutically effective amount of a compound of Claim 1.

13. The method of Claim 12, wherein the condition is selected from Alzheimer's disease, Parkinson's disease, Friedreich's ataxia, cerebellar ataxias, Leber's hereditary optic neuropathy, epilepsy, and myodegenerative disorders.

14. The method of Claim 13, wherein the condition is epilepsy.

15. The method of Claim 13, wherein the condition is Parkinson's disease.

16. The method of Claim 13, wherein the condition is Friedreich's ataxia.

17. A method of protecting cellular mitochondrial function against a toxic insult with compounds of Claim 1.

18. The method of claim 17, wherein said cellular mitochondrial function is in a neuronal cell.

19. The method of claim 18, wherein said neuronal cell is dopaminergic cell.

20. The method of claim 19, wherein said dopaminergic cells are in the neurons of the substantia nigra-pars compacta.

21. A pharmaceutical composition comprising (5-hydroxy-3,6,7-trimethyl-benzofuran-2-yl)-phenyl-methanone admixed with an acceptable excipient.

22. A method of treatment for a mammal suffering from a condition characterized by oxidative stress, comprising administering a therapeutically effective amount of (5-hydroxy-3,6,7-trimethyl-benzofuran-2-yl)-phenyl-methanone.

23. The method of treatment for a mammal suffering from a condition characterized by oxidative stress, comprising administering a therapeutically effective amount of a pharmaceutical composition of Claim 21.

24. The method of Claim 22, wherein the condition is selected from stroke, cerebral ischemia, retinal ischemia, myocardial infarction, chronic heart failure, post-surgical cognitive dysfunctions, peripheral neuropathy, spinal cord injury, head injury, and surgical trauma.

25. The method of Claim 22, wherein the condition involves inflammatory or autoimmune components.

26. The method of Claim 25, wherein the inflammatory condition is a dermatologic condition.

27. A method of treatment for a mammal suffering from a condition characterized by mitochondrial dysfunction or neurodegeneration, comprising administering a therapeutically effective amount of (5-hydroxy-3,6,7-trimethyl-benzofuran-2-yl)-phenyl-methanone.

28. The method of Claim 27, wherein the condition is selected from Alzheimer's disease, Parkinson's disease, Friedreich's ataxia, cerebellar ataxias, Leber's hereditary optic neuropathy, epilepsy, and myodegenerative disorders.

29. The method of Claim 28, wherein the condition is epilepsy.

30. The method of Claim 28, wherein the condition is Parkinson's disease.

31. The method of Claim 28, wherein the condition is Friedreich's ataxia.

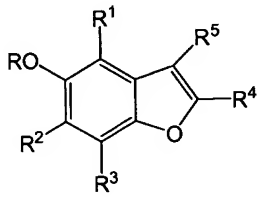
32. A method of protecting cellular mitochondrial function against a toxic insult with (5-hydroxy-3,6,7-trimethyl-benzofuran-2-yl)-phenyl-methanone.

33. The method of claim 32, wherein said cellular mitochondrial function is in a neuronal cell.

34. The method of claim 33, wherein said neuronal cell is dopaminergic cell.

35. The method of claim 34, wherein said dopaminergic cells are in the neurons of the substantia nigra-pars compacta.

36. A method of treatment for a mammal suffering from a condition characterized by mitochondrial dysfunction or neurodegeneration, comprising administering a therapeutically effective amount of a compound of Formula I:



Formula I

wherein:

R^1 is: hydrogen, optionally substituted (C_1-C_6)-alkyl, optionally substituted (C_2-C_{10})-alkenyl, optionally substituted aryl, (optionally substituted (C_1-C_6)-alkoxy)carbonyl, or halogen;

R^2 and R^3 are independently selected from optionally substituted (C_1-C_6)-alkyl, optionally substituted (C_2-C_{10})-alkenyl, or optionally substituted (C_3-C_8)-cycloalkyl;

R^4 is: hydrogen, optionally substituted aryl, (optionally substituted(C_1-C_6)- alkyl)carbonyl, (optionally substituted aryl)carbonyl, (optionally substituted heterocyclyl)carbonyl, (optionally substituted heterocyclylalkyl)carbonyl, (optionally substituted (C_1-C_6)-alkoxy)carbonyl, (optionally substituted (C_2-C_{10})-alkenyloxy)carbonyl, (optionally substituted amino)carbonyl, carboxy, formyl, or hydroxy(optionally substituted)(C_1-C_6)-alkyl;

R^5 is: hydrogen, (C_1-C_6)-alkyl, (C_2-C_{10})-alkenyl, (optionally substituted alkoxy)carbonyl, carboxy, (optionally substituted amino)carbonyl, or optionally substituted aryl;

provided that one of R^4 or R^5 is hydrogen, and that when R^4 is hydrogen R^5 is not hydrogen, and when R^5 is hydrogen R^4 is not hydrogen; and

R is: hydrogen, (C_1-C_6)-alkyl, (C_1-C_6)-alkylcarbonyl, phosphoryl, or polyalkoxy; or

R and R^1 with the atoms to which they are attached form an optionally substituted ring;

and single stereoisomers, mixtures of stereoisomers, and the pharmaceutically acceptable salts thereof.

37. The method of Claim 36, wherein R^1 is halogen, R^4 is (optionally substituted(C_1-C_6)-alkyl)carbonyl and R^5 is hydrogen.

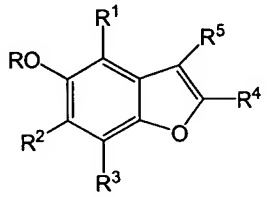
38. The method of Claim 36, wherein the condition is selected from Alzheimer's disease, Parkinson's disease, Friedreich's ataxia, cerebellar ataxias, Leber's hereditary optic neuropathy, epilepsy, and myodegenerative disorders.

39. The method of Claim 38, wherein the condition is epilepsy.

40. The method of Claim 38, wherein the condition is Parkinson's disease.

41. The method of Claim 38, wherein the condition is Friedreich's ataxia.

42. A method of protecting cellular mitochondrial function against a toxic insult with compounds of Formula I:



Formula I

wherein:

R^1 is: hydrogen, optionally substituted (C_1-C_6)-alkyl, optionally substituted (C_2-C_{10})-alkenyl, optionally substituted aryl, (optionally substituted (C_1-C_6)-alkoxy)carbonyl, or halogen;

R^2 and R^3 are independently selected from optionally substituted (C_1-C_6)-alkyl, optionally substituted (C_2-C_{10})-alkenyl, or optionally substituted (C_3-C_8)-cycloalkyl;

R^4 is: hydrogen, optionally substituted aryl, (optionally substituted(C_1-C_6)- alkyl)carbonyl, (optionally substituted aryl)carbonyl, (optionally substituted heterocyclyl)carbonyl, (optionally substituted heterocyclylalkyl)carbonyl, (optionally substituted (C_1-C_6)-alkoxy)carbonyl, (optionally substituted (C_2-C_{10})-alkenyloxy)carbonyl, (optionally substituted amino)carbonyl, carboxy, formyl, or hydroxy(optionally substituted)(C_1-C_6)-alkyl;

R^5 is: hydrogen, (C_1-C_6)-alkyl, (C_2-C_{10})-alkenyl, (optionally substituted alkoxy)carbonyl, carboxy, (optionally substituted amino)carbonyl, or optionally substituted aryl;

provided that one of R^4 or R^5 is hydrogen, and that when R^4 is hydrogen R^5 is not hydrogen, and when R^5 is hydrogen R^4 is not hydrogen; and

R is: hydrogen, (C_1-C_6)-alkyl, (C_1-C_6)-alkylcarbonyl, phosphoryl, or polyalkoxy; or

R and R^1 with the atoms to which they are attached form an optionally substituted ring;

and single stereoisomers, mixtures of stereoisomers, and the pharmaceutically acceptable salts thereof.

43. The method of claim 42, wherein said cellular mitochondrial function is in a neuronal cell.

44. The method of claim 43, wherein said neuronal cell is dopaminergic cell.

45. The method of claim 44, wherein said dopaminergic cells are in the neurons of the substantia nigra-pars compacta.